Remarks

In view of the above amendments to the claims and the following discussion, the applicants submit that the claims now pending in the application are not anticipated under the provisions of 35 U. S. C. § 102, or rendered obvious under the provisions of 35 U. S. C. § 103. Thus, the applicants believe that all of these claims are in allowable form.

Independent Claims 1 and 9 and dependent claims 5-6, 13-14 and 17-18 have been amended for clarification and to more clearly and distinctly claim the subject matter that applicant regards as his invention.

Response to Examiner's response to Applicants Arguments at page 5 of the Official Letter

The Applicant never disagreed at page 6 in the letter of reply to the previous Office Action with the Examiner that "Yoshiya teaches to drive the margin section with a signal computed on the basis of an **average level** of the video image" and "in paragraph 0024 Yoshiya stated: "...the brightness difference of the boundary of the image section and the margin section become loose ..." (drawing 6, items L1-L2, paragraph 0024) and the brightness difference of the image and margin sections can be held small (drawing 6, items L1-L2, paragraph 0008)." and that "It is clear that the **average level** of the video image for image portion of the display L1 is equal to average level of brightness of the input video signal because in margin section a valid video signal does not exist (unused area) (drawing 6 (b), items L1-L2, Constitution).", **however**, "...the brightness difference of the boundary of the image section and the margin section become loose ..." and "the brightness difference of the image and margin sections can be held small" "on the basis of an **average level** of the video image" **is further improved by the present invention to avoid disadvantages of using** the **average level,** which e.g. occur in case of a black image with some white points

as in such a case by using the **average level** of the video image **the sidebars will be gray.**

Therefore, the present invention teaches an **improvement by using the main content (main level) of the video image**, which in difference to the average level ensures that in case of a black image with some white points also **the sidebars will be black.**

None of the cited references neither alone nor in combination disclose or give any hint **to reduce the disturbing effect of active sidebars** (sidebars adapting the gray level to the video level to suppress the marking effect (burn in effect)).

REJECTIONS

A. 35 U. S. C. § 102

1. Claims 1-2, 9-10 and 15-18 are not anticipated by Yoshiya

Claims 1-2, 9-10 and 15-18 stand rejected under 35 U. S. C. § 102(b) as being anticipated by Yoshiya (Japanese Patent Publication JP 05-075951 published March 26, 1993). The applicants submit that the amended claims are not anticipated by this reference.

Yoshiya describes a burning preventing circuit 8 that **inserts the average level value of the video signal into a margine section** (*see*, Yoshiya at Constitution). This burning preventing circuit 8 receives the **video signal of the whole video image** to be displayed in the display area, **defines the average level value of said video signal and drives the margine section with this average level value. Therefore, Yoshiya teaches to drive the margin section with a signal computed on the basis of an average level of the video image (as also correct interpreted by the Examiner)**, however, Yoshiya neither discloses nor gives a hint to drive the margin section by **the main content (main**

level) of the video image, which is formed by "**evaluating the quantity at which each brightness level occurs** in said analysing areas **and** by **selecting a brightness level according to a significant quantity at which a brightness level occurs** in said analysing area **...in order to suppress the marking effect *and* to limit the disturbing effect** ...", of active sidebars. The present invention uses **the main content (main level) of the video image, which reduces the disturbing effect of active sidebars as explained above.**

The terms main value and average value constitute different subject matter.

Definition - Average value e.g.

(http://wps.prenhall.com/chet_boylestad_introduct_10/4/1061/271826.cw/index.html)

Average value The level of a waveform defined by the condition that the area enclosed by the curve above this level is exactly equal to the area enclosed by the curve below this level.

Therefore, by using the average value - one or some white in a big black environment cause **gray.**

Main value according to the present invention:

- **evaluating the quantity at which each brightness level occurs and**
- **selecting a brightness level according to a significant quantity at which a brightness level occurs**

Therefore, by using the main value - one or some white in a big dark environment cause **black.**

This is also confirmed by the Examiner at page 4, lines 1 – 3 of the second Office Action, which recites: "Yoshiya does not disclose at least one predetermined signal is computed by evaluating a histogram of brightness values of one of said analysing areas ..." and that "Yoshiya teaches taking a medium brightness of said significant part for said at least predetermined signal (constitution)." (see page 3 of the second Office Action, last two lines).

Furthermore, Milch et al. teaches "a method and system for reducing the power used by a display device having light emitting pixels" (column 1, ll. 62 -63) and recommends "setting all of the pixels below a certain threshold to black" (column 3, ll. 11-12) That means that peak white pixels (pixels above a certain threshold to black) in a dark environment will not be removed by employing Milch and cause gray sidebars. Furthermore, "The **values and threshold are chosen so that the average brightness of the image or graphic is reduced.**" (Column 3, ll. 20-22) and Milch reads: "The information necessary to set the thresholds can be obtained from a histogram of the brightness code values of a particular image to be displayed, or from the histograms of a selection of representative images." (Column 3, ll. 26 – 29) so that there is also no hint to a "significant part of the histogram (significant frequency of levels)" in column 3, ll.10 - 32.

"A histogram is a graphical display of tabulated frequencies, shown as bars. It shows what proportion of cases fall into each of several categories."
(see e.g. http://en.wikipedia.org/wiki/Histogram) – The frequency is the number of times at which a level occurs (the quantity) and the category is a certain level.

The effect desired by Yoshiya is improved by the present invention as **instead of an average level** of the video signal (average brightness level), according to the present invention **brightness values concerning the quantity at which each brightness level occurs in one of said analysing areas (main content (main level) of the video image)** is used to compute the signal for unused areas, which is also neither disclosed nor suggested by Milch et al. or a combination of Yoshiya and Milch.

As mentioned above, said different means have a different effect in such a way that by using the average value of Yoshida or using "setting all of the pixels below a certain threshold to black " according to Milch in case of a black image with some white points the sidebars will be gray, which is not satisfactory. However, "by evaluating brightness values concerning the quantity at which

brightness level occur in one of said analysing areas and by selecting a brightness level according to a significant quantity at which brightness level occur" the sidebars will be black.

Consequently different means having a different effect are used in view of Yoshiya and Milch.

Milch et al. (US 7,002,593 B2) discloses: "Similarly, reducing the number of bright pixel elements in a graphic element or image can reduce the total power used by the display." (See Milch et al. at column 3, lines 8 - 10). And Milch reads in details: "This can be accomplished, for example, by setting all of the pixels below a certain threshold to black, reducing highlights in the graphic or image, or by scaling all of the pixels by a certain percentage thereby making the entire graphic less bright. Alternatively, graphic elements may be eliminated entirely and replaced with black background. A less drastic alternative is to binarize the image or graphic element by setting every pixel in the image to either one of two values, a darker or a lighter value, depending on whether they are below or above a predetermined or pre-selected threshold. The values and threshold are chosen so that the average brightness of the image or graphic is reduced. The two values may, but need not necessarily, be black and white. The darker or more efficient the two binary values are, the greater the power savings. **The threshold value should be set so as to maximize the number of pixels set to the darker or more efficient value. The information necessary to set the thresholds can be obtained from a histogram of the brightness code values of a particular image to be displayed, or from the histograms of a selection of representative images.** This binarizing technique can also be applied to text and background to achieve power savings." (See Milch et al. at column 3, lines 10 - 32).

This means that Milch et al. teaches "to *reduce the number and/or intensity of bright pixels* in a display of the formatted information to produce modified formatted information" (see Milch et al. at column 4, lines 26 – 30) to reduce the total power, however, Milch et al. neither discloses nor gives a hint for

"evaluating brightness values concerning the quantity at which brightness level occur in one of said analysing areas and ... *selecting a brightness level according to a significant quantity at which brightness level occur* ... in said analysing area ... in order to suppress the marking effect and to limit the disturbing effect of the unused display sections."

Consequently, a replacement of using average brightness values in Yoshiya by *reducing the number and/or intensity of bright pixels* as disclosed by Milch et al. shows that such a combination neither discloses nor suggests the present invention, which is based on "*selecting a brightness level according to a significant quantity at which brightness level occur*" to compute the signal for unused areas.

As such, the present invention is patentable over Yoshiya in view of Milch et al.

B. 35 U. S. C. § 103(a)

1. Claims 5-8 and 13-14 are not unpatentable over Yoshiya in view of Milch et al.

Claims 5-8 and 13-14 stand rejected under 35 U. S. C. § 103(a) as being unpatentable over Yoshiya (Japanese Patent Publication JP 05-075951 published March 26, 1993) in view of Milch et al. (U. S. Patent 7,002,593 issued February 26, 2006). The applicants submit that these claims are e.g. already therefore not rendered obvious by the combination of these references as said claims are dependent on claims 1 and 9 as shown above.

Claims 5 and 13 depend from claims 1 and 9, respectively, and describe a method and device in which the signal is computed by evaluating brightness values concerning the quantity at which brightness level occur in one of said analysing areas and by selecting a brightness level according to a significant quantity at which brightness level occur - by "a histogram of brightness values of

one of said analysing areas" for computing said at least one predetermined signal. This feature of claims 5 and 13 is neither disclosed nor suggested by Yoshiya.

This feature of claims 5 and 13 is not disclosed by Milch et al. either. Milch et al. relates to a method for reducing the power used by the display in a portable electronic device. A format pre-processing is used to modify the information format to reduce bright pixels in the display. The information content is not modified. Milch et al. teaches to reduce the light of some pixels (pixels of text within the display area) so as to reduce the overall average brightness of the display area. Milch et al. does not teach to modify the brightness of unused areas (outside the display area). Furthermore, Milch et al. does not teach to use analysing areas which are part or parts of the display area to modify the brightness of unused areas.

Furthermore, the combination of Yoshiya and Milch et al. fails to recite a method and device as described in claims 5 and 13 as according to claims 5 and 13 one or more analysing areas within the display area are defined. These analysing areas are selected to directly abut on the unused areas of the display area. They are used to compute the signal to be supplied to the unused areas (sidebars or margine section) by evaluating brightness values concerning the quantity at which brightness level occur in one of said analysing areas and by selecting a brightness level according to a significant quantity at which brightness level occur. This guarantees that the unused areas are adapted to directly adjacent areas. Thus, claims 5 and 13 are patentable over the combination of Yoshiya and Milch et al.

Claims 6-8 and 14 are directly or indirectly depend on claims 5 or 13, respectively. Therefore, for the same reasons as mentioned above for claims 5 and 13, claims 6-8 and 14 are also patentable over Yoshiya in view of Milch et al.

CONCLUSION

Thus, the applicants submit that none of the claims presently in the application are anticipated under the provisions of 35 U. S. C. § 102, or rendered obvious under the provisions of 35 U. S. C. § 103. Consequently, the applicants believe that all of the claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Ms. Patricia A. Verlangieri, at (609) 734-6867, so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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